

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A transabdominal access system for a patient having a heart, a rib cage, a sternal area and an abdomen with an upper abdominal incision, comprising:

upper and lower spreader portions, said spreader portions being positioned relative to each other to open the incision and produce a substernal space for access to the heart, said upper spreader portion being configured to lift the sternal area and comprising a hook mounted to a retraction mechanism actuator via a swivel, said lower portion comprising a depressor surface adapted to engage the diaphragm and abdominal organs to depress the abdomen at the incision.

2. (Withdrawn) The system of claim 1, further comprising compression surfaces, said compression surfaces positioned across the rib cage when in use for compressing the rib cage to assist in producing the substernal space.

Claims 3-10. (Canceled)

11. (Currently Amended) A transabdominal access system for a patient having an upper abdominal incision, comprising:

an upper spreader portion and a lower spreader portion, said upper spreader portion including a pair of hooks configured for lifting the sternal area of the patient at the incision, each of said pair of hooks having a free end portion independent of the other, and said lower spreader portion comprising a depressor surface adapted to engage the diaphragm and abdominal organs to depress the abdomen at the incision; and

said upper and lower spreader portions being positioned relative to each other to produce a substernal space.

12. (Canceled)

13. (Previously Presented) The transabdominal access system of claim 11, wherein each of said hooks comprises a lifting surface for lifting the sternal area of the patient.

14. (Previously Presented) The transabdominal access system of claim 11, further comprising: first and second side portions, said first and second side portions being positioned and configured between said upper spreader portion and lower spreader portion to aid in producing a substernal space.

15. (Original) The transabdominal access system of claim 14, wherein said first and second side portions are integrally connected to said upper spreader portion and said lower spreader portion of said system.

16. (Withdrawn) The transabdominal access system of claim 14, where said first and second side portions are connected to said upper spreader portion; and

 said side portions comprise a rib compression surface, said rib compression surface positioned across the rib cage when in use for compressing the rib cage to assist in producing the substernal space.

17. (Withdrawn) The transabdominal access system of claim 16, wherein said rib compression surfaces of said side portions each comprise at least one adjustable compression pad configured to contact the patient to apply an external force to the patient's rib cage.

18. (Withdrawn) The transabdominal access system of claim 17, wherein said upper spreader portion and said compression pads are configured to coordinate sternal lifting by said upper spreader portion and rib compression by said compression pads.

19. (Withdrawn) The transabdominal access system of claim 11, further comprising: contact pads configured to stabilize said transabdominal through contact with the patient in locations aware from the substernal opening.

 said upper spreader portion comprises a lifting portion for lifting and retracting the patients sternum.

20. (Original) The transabdominal access system of claim 11, wherein said upper spreader portion further comprises a retraction mechanism adapted to lift the rib cage at the site of the abdominal opening.

21. (Withdrawn) The access system of claim 21, wherein said retraction mechanism comprises

a ratchet mechanism adapted to generate a force necessary to lift the sternum and maintain a lifted position of the sternum.

22. (Original) The transabdominal access system of claim 11, wherein said upper spreader portion further comprises a screw-type mechanism for lifting and retracting the sternum.

23. (Withdrawn) The transabdominal access system of claim 20, wherein said retraction mechanism comprises a piston driver.

24. (Withdrawn) The transabdominal access system of claim 20, wherein said retraction mechanism comprises a hoist.

25. (Withdrawn) The transabdominal access system of claim 20, wherein said retraction mechanism comprises a winch-type mechanism.

26. (Withdrawn) The transabdominal access system of claim 11, wherein said system is configured and mounted to a surgery table for stability of said system.

27. (Withdrawn) The transabdominal access system of claim 11, wherein said upper spreader portion further comprises a plurality of cables, said plurality of cables configured to run through the patient's chest to lift the sternal area.

28. (Withdrawn) The transabdominal access system of claim 11, wherein said lower spreader portion further comprises at least one instrument mounting element for a tool useful in surgery.

29. (Withdrawn) The transabdominal access system of claim 11, wherein said upper spreader portion comprises a lifting portion and a pair of advancement mechanisms and compression plates, said advancement mechanisms configured to adjust positions of said compression plates relative to said lifting portion.

30. (Withdrawn) The transabdominal access system of claim 29, wherein said advancement mechanisms comprise a plurality of lugs and a horizontal slider, said plurality of lugs being adjustable

along said horizontal slider to optimize the placement of said compression plates relative to said lifting portion of said upper spreader portion.

Claims 31 - 43. (Canceled)

44. (Previously Presented) The system of claim 1 wherein the depressor surface comprises a tongue depressor-like structure is essentially flat.

45. (Previously Presented) The system of claim 11 wherein the depressor surface comprises a tongue depressor-like structure is essentially flat.